Amendments to the Specification:

Please amend the paragraph at page 1, lines 21-27 as follows:

In the meantime, an inverted microscope includes an optical system which relays an image of an objective lens in ~~an~~ a microscope main body (hereinafter referred to as "main body"), which is different from an upright microscope. Therefore, in an inverted microscope, different dedicated main bodies are often prepared according to various uses.

Please amend the paragraph at page 2, line 23 to page 3, line 9 as follows:

The above U-shaped inverted microscope is mainly for industrial use. In the meantime, an inverted microscope mainly for biological and medical use ~~, which~~ has the following structure, for example (see Jpn. Pat. Appln. KOKAI Pub. No. 7-035986 and Jpn. Pat. Appln. KOKAI Pub. No. 8-43741). A part of a beam which has passed the objective lens and a tube lens is guided by a first optical element to a horizontal-forward optical path for image documentation.

The beam which has passed downward from the first optical element is guided by a second optical element to an obliquely-forwarded optical path for observing (hereinafter an inverted microscope having such a structure is sometimes referred to as "V-shaped").

Please amend the paragraph at page 7, lines 18-20 as follows:

FIG. 3 is a diagram showing a schematic structure of ~~an~~ another inverted microscope applied to industrial use according to the first embodiment;

Please amend the paragraph at page 7, line 27 to page 8, line 2 as follows:

FIG. 6 is a diagram showing a schematic diagram of ~~an~~ another inverted microscope according to the second embodiment, in which the option unit is added;

Please amend the paragraph at page 8, lines 7-9 as follows:

FIG. 8 is a diagram showing a schematic diagram of ~~an~~ another inverted microscope according to the third embodiment, in which the photographic device is added.

Please amend the paragraph at page 9, lines 14-27 as follows:

A tube lens 6 forming a primary image forming optical system is disposed on an optical axis of the objective lens 4 disposed on the observation optical path. The tube lens 6 cooperates with the objective lens 4 to form a magnified image of the observed sample 2. Further, an imaging beam of the observed sample 2 outgoing from the objective lens 4 and tube lens 6 is made incident on a reflection mirror 7. The reflection mirror 7 is disposed on the bottom portion of the main body 1. The imaging beam made incident from the tube lens 6 is reflected by the reflection mirror 7 obliquely upward. Further, the imaging beam forms an intermediate image ~~I1~~ I_1 on an observation optical path 8 after reflection by the reflection mirror 7.

Please amend the paragraph at page 10, lines 1-17 as follows:

The revolver 5 is held by a revolver stand 9. The revolver stand 9 is supported so as to be direct-acting vertically with respect to the main body 1. Further, a rack 10 is attached to the revolver stand 9. A pinion shaft 11 which meshes with the rack 10 is provided coaxially with focusing handles 12. When focusing handles 12 are rotated, the pinion shaft 11 rotates. Then, the rack 10 which meshes with the pinion shaft 11 and the revolver stand 9 fixed on the rack 10 are vertically driven. Therefore, a relative distance between the observed sample 2 placed on the stage 3 and the objective lens 4 held by the revolver 5 changes. Thereby, it becomes possible to perform focusing to image the intermediate image ~~I1~~ $\underline{I_1}$ of the observed sample 2 formed by the objective lens 4 and the tube lens 6 at a predetermined position. This focusing mechanism is called "focusing mechanism".

Please amend the paragraph at page 10, lines 18-26 as follows:

In FIGS. 1 and 2, the revolver stand 9 and rack 10 appear to intercept the observation optical path 8 directed obliquely upward. However, the revolver stand 9 and rack 10 are off from the observation optical path 8 in the right/left direction of the main body 1 (that is, in the vertical direction perpendicular to the surface of the sheet ~~of~~ displaying FIGS. 1 and 2). Therefore, the revolver stand 9 and rack 10 do not intercept the observation optical path 8.

Please amend the paragraph at page 12, line 14 to page 13, line 7 as follows:

A strut 17 is provided on the leg portion 1a on the rear side of the main body 1. The strut 17 supports an illuminator tube 19 having a light source device 18 using a halogen lamp, etc. as transillumination means. The illuminator tube 19 is provided with a mirror 20. The mirror 20 reflects illumination light guided horizontally from the light source device 18 to the illuminator tube 19 vertically downward. The strut 17 supports a condenser receiver 22 holding a condenser lens 21. The condenser lens 21 condenses the illumination light reflected by the mirror 20 onto the observed sample 2. Further, the condenser receiver 22 is vertically movable along the strut 17. Furthermore, as described above, the reflection mirror 7 disposed at the bottom portion of the main body 1 reflects an imaging beam of the observed sample 2, which has ~~outgone~~ passed vertically downward ~~by~~ through the objective lens 4 and imaging lens 6, in an obliquely upward direction (45° in this case). Then, the intermediate image ~~I1~~ I_1 is formed on the observation optical path 8.

Please amend the paragraph at page 13, lines 8-18 as follows:

The intermediate image ~~II~~ I_1 is made incident on a relay lens group 23 serving as a relay optical system. The relay lens group 23 is arranged in a hollow portion of a cylindrical additional unit 24 provided on the front side of the main body 1 in an obliquely upward direction. The optical axis of the relay lens group 23 agrees with the optical axis of the observation optical path 8. A hole portion large enough for the relay lens group 23 to enter the main body 1 is provided on the side of main body 1 ~~side~~. A part of the relay lens group 23 enters the main body 1 side through the hole portion.

Please amend the paragraph at page 13, line 19 to page 14, line 2 as follows:

A tube 26 is detachably attached to the distal end portion of the additional unit 24. The tube 26 has a tube lens 25 for imaging a parallel beam from the relay lens group 23. Further, a binocular portion 27 for observation by both eyes is provided integrally on the tube 26. An

eyepiece 28 is attached to the binocular portion 27. Thereby, the imaging beam from the tube lens 25 is imaged as a first image ~~I2~~ I_2 at the position of the eyepiece 28. Then, the imaging beam enters the observer's eyes through the eyepiece 28 to be visually observed.

Please amend the paragraph at page 14, lines 3-16 as follows:

In the inverted microscope for biological and medical use as described above, when transillumination light from the light source device 18 is irradiated from the illuminator tube 19 on the observed sample 2 via the mirror 20, the sample image is visually observed by the observer as follows. The intermediate image ~~I1~~ I_1 of the observed sample 2 located on the optical axis of the objective lens 4 is formed on the observation optical path 8 by the objective lens 4 and the tube lens 6. Thereafter, the intermediate image ~~I1~~ I_1 is formed as the first image ~~I2~~ I_2 at the position of the eyepiece 28 via the imaging lens 25 of the tube 26. Then, the first image ~~I2~~ I_2 is visually observed as a sample image by the observer with the eyepiece 28.

Please amend the paragraph at page 15, lines 14-20 as follows:

The reflection mirror 7 disposed in the bottom portion of the main body as in FIG. 1 reflects an imaging beam of the observed sample 2, which has ~~outgone~~ passed vertically downward ~~by~~ through the objective lens 4 and the imaging lens 6, obliquely upward (45o in this case). Then, an intermediate image ~~I1~~ I_1 is formed on the observation optical path 8.

Please amend the paragraph at page 15, line 21 to page 16, line 3 as follows:

The intermediate image ~~I1~~ I_1 is made incident on a relay lens group 34. The relay lens group 34 is arranged inside an additional unit 35 provided on the front side of the main body 1. The optical axis of the relay lens group 34 agrees with the optical axis of the observation optical path 8. Also in the case shown in FIG. 2, a hole portion large enough for the relay lens group ~~23~~ 34 to enter the main body 1 is provided on the main body 1 side. A part of the relay lens group ~~23~~ 34 enters the main body 1 side through the hole portion.

Please amend the paragraph at page 16, lines 4-17 as follows:

A semi-transparent mirror 36 as an optical element is disposed among the relay lens group 34. The semi-transparent mirror 36 reflects a part of beam relayed through the relay lens group vertically downward. A mirror 37 reflects the beam reflected by the semi-transparent mirror 36 horizontally forward. The beam reflected by the mirror 37 outgoes from a front port 38 provided on the front surface of the additional unit 35. The front port 38 is used for attaching image pickup means such as a photographic device and TV camera. Further, an image pickup optical system 39 is provided for forming a sample image ~~I2'~~ I_2' on an image pickup surface of a photographic device and TV camera, etc., to be attached to the front port 38.

Please amend the paragraph at page 16, lines 18-23 as follows:

A tube 41 having a tube lens 40 in the same manner as stated with respect to FIG. 1 is detachably attached to the additional unit 35. A binocular portion 43 having an eyepiece 42 is provided integrally on the tube 41. Thereby, an imaging beam from the imaging lens 40 can be observed as a sample image ~~I2~~ I_2.

Please amend the paragraph at page 17, lines 15-23 as follows:

A reflection mirror 51 disposed in the bottom portion of the main body 1 reflects an imaging beam of the observed sample 2, which has outgone vertically downward by the objective lens 4 and the tube lens 6, horizontally in the forward direction of the main body 1. The imaging beam of the observed sample 2 reflected by the reflection mirror 51 forms a first intermediate image ~~I1~~ I_1 on an observation optical path 52 in the horizontal direction.

Please amend the paragraph at page 17, line 24 to page 18, line 6 as follows:

The first intermediate image ~~I1~~ I_1 is incident into a relay lens group 53. The relay lens group 53 is arranged inside an additional unit 54 provided on the front side of the main body 1. The optical axis of the relay lens group 53 agrees with the optical axis of the observation optical path 52. Further, also in FIG. 3, a hole portion large enough for the relay lens group ~~23~~ 53 to enter the main body 1 is provided on the main body 1 side. A part of the relay lens group ~~23~~ 53 enters the main body 1 side through the hole portion.

Please amend the paragraph at page 18, lines 7-25 as follows:

A mirror 55 is disposed among the relay lens group 53. The mirror 55 reflects a beam relayed through the relay lens group 53 vertically upward. Further, a semi-transparent mirror 56 is disposed on an optical path of the reflected light of the mirror 55. The semi-transparent mirror 56 transmits the beam relayed by the relay lens group 53, and reflects a part of the beam horizontally. The beam which has been transmitted through the semi-transparent mirror 56 forms is imaged as a second intermediate image ~~I2~~ I_2 on the reflected light path. Further, the beam reflected by the semi-transparent mirror 56 outgoes from a front port 57 provided on the front surface of the additional unit 54. The front port 57 is used for attaching image pickup means, such as a photographic device and TV camera. Further, an image pickup optical system 58 is provided to form a sample image ~~I3~~ I_3 on an image pickup surface of a photographic device or TV camera, etc. to be attached to the front port 57.

Please amend the paragraph at page 18, line 26 to page 19, line 12 as follows:

The second intermediate image ~~I2~~ I_2 is made incident on a relay lens group 59. A semi-transparent mirror 60 is disposed among the relay lens group 59. The semi-transparent mirror 60 reflects a part of the beam relayed through the relay lens group 59 in a horizontal lateral direction (direction perpendicular to the surface of the sheet displaying Fig. 3). The light reflected by the semi-transparent mirror 60 ~~outgoes~~ goes out from a side port 61 provided on a side surface of the additional unit 54. Image pickup ~~mean~~ means such as a TV camera is attached to the side port 61. As described above, the side port 61 is used for picking up an image of the imaging beam reflected by the semi-transparent mirror 60 by a TV camera, etc.

Please amend the paragraph at page 19, lines 13-18 as follows:

The semi-transparent mirror 56 and 60 can be receded from the optical path at discretion by a known method. Further, a slot 62 is provided at a position of the second intermediate image ~~I2~~ $\underline{I_2}$. The slot 62 is used for inserting a framing reticle indicating a range reflected in a photographic device described below.

Please amend the paragraph at page 19, lines 19-25 as follows:

A tube 64 having a tube lens 63 is detachably attached to the additional unit 54 in the same manner as in FIG. 1. A binocular portion 66 having an eyepiece 65 is provided on the tube 64 integrally structure with the tube 64. Thereby, an imaging beam from the tube lens 63 can be observed as a sample image ~~I3'~~ $\underline{I_3'}$.

Please amend the paragraph at page 20, line 22 to page 21, line 11 as follows:

As shown in FIGS. 1 to 3, the inverted microscope system according to the first embodiment uses the approximately concave main body 1 having the leg portions 1a and 1b in common in the inverted microscopes for biological and medical use and for industrial use. The main body 1 comprises the revolver 5 for holding the objective lenses 4, tube lens 6 for forming an intermediate image ~~II~~ I_1 of the observed sample 2 in cooperation with the objective lens 4, and the revolver stand 9 which holds the revolver 5 and is supported so as to be direct-acting vertically with respect to the main body 1. The main body 1 further comprises the rack 10 attached to the revolver stand 9, pinion shaft 11 which meshes with the rack 10, and focusing handles 12 provided coaxially with the pinion shaft 11. Further, the stage 3 is fixed on the front and rear leg portions 1a and 1b.

Please amend the paragraph at page 22, line 12 to page 23, line 2 as follows:

In the first embodiment, the reflection mirror 7 and the reflection mirror 51 are described as different mirrors. However, the invention is not limited to it, and the reflection mirrors 7 and 51 may be the same mirror with a variable angle (see FIG. 4). In such a case, it suffices that the reflection mirror is rotated in a direction of r with the central point 0. Thereby, the reflection angle of the reflection mirror can be set to a desired angle. Therefore, as shown in FIG. 4, a reflection mirror can be applied to two inverted microscopes, that is, V-shaped and ~~V-shaped~~ U-shaped microscopes. Further, a mirror may be formed to move in the X direction shown in FIG. 4 so as to be removed from the optical path. By doing so, it is possible to obtain a sample image corresponding to the intermediate image ~~I1~~ I_1 by disposing a camera, etc. below the main body 1. This structure of the mirror is also applicable to the following embodiments.

Please amend the paragraph at page 24, lines 5-12 as follows:

According to the structure as shown in FIG. 5, it is possible to easily change the magnification of the intermediate image (primary image) ~~I1~~ I_1 itself by the intermediate variable-power lenses 71 and 72, ~~not~~ without relaying the intermediate image ~~I1~~ I_1 of the observed sample 2 by relay lens group 23. Therefore, it is possible to construct an inverted microscope adapted to biological use in which deterioration of image due to relay is ~~not preferable~~ avoided.

Please amend the paragraph at page 24, lines 13-25 as follows:

Further, since a TV camera, etc. is provided on the rear side of the main body 1 with the back-port unit 75, no space is required on the front surface and side surfaces of the main body. Therefore, it is possible to effectively use the desktop space. In particular, a wide space is available on the side surface side of the main body, which is very effective when an attachment such as a manipulator is used in combination with the inverted microscope. Further, since an intermediate image (primary image) ~~I1~~ I_1 can be directly picked up via the back-port unit 75, it is possible to obtain observation results with high accuracy.

Please amend the paragraph at page 25, lines 13-24 as follows:

FIGS. 7 and 8 are diagrams each showing a schematic structure of an inverted microscope system according to the third embodiment. In ~~the~~ each inverted microscope system according to the third embodiment, ~~entirely the same~~ a photographic device is connected to each of the front port 38 and the front port 57 in the inverted microscopes shown in FIGS. 2 and 3. Further, the structures in FIGS. 7 and 8 other than the photographic device are the same as those in FIGS. 2 and 3 respectively, and their explanations will be omitted with like components denoted by like reference numerals.

Please amend the paragraph at page 26, lines 3-9 as follows:

A large-sized camera 202 and a 35 mm camera 203 are attached to the front surface and the side surface, respectively, of the photographic device 201. The large-sized camera 202 can take a photograph of a large size with length and breadth dimensions such as 4 ~~inch~~ inches × 5 ~~inch~~ inches and 3 ~~inch~~ inches × 4 ~~inch~~ inches. The 35 mm camera 203 can take a photograph of 35 mm size.

Please amend the paragraph at page 32, lines 12-19 as follows:

As described above, according to the embodiments of the present invention, instead of manufacturing different inverted microscopes separately according to use, a microscope main body as a basic function portion is used in common. Thereby, manufacturing costs for all of the ~~whole~~ plural kinds of microscopes ~~is~~ are reduced, and such a microscope can be flexibly applied to various uses.

Please amend the paragraph at page 33, lines 8-16 as follows:

As described above, according to the present invention, instead of manufacturing various kinds of dedicated inverted microscope main bodies for various uses, such as biological and medical use and industrial use, a basic function portion of a microscope is used in common, and thereby manufacturing costs for all of the ~~whole~~ plural kinds of microscopes ~~is~~ are reduced, and it is possible to realize an inverted microscope which can be flexibly applied to various uses.